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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,138	10/30/2003	Jung Yun Do	51876P404	3451

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EXAMINER

KUGEL, TIMOTHY J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/699,138

Applicant(s)

DO ET AL.

Examiner

Timothy J. Kugel

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-6 are pending as amended on 3 January 2006.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Information Disclosure Statement

3. Applicant references US Patent 5,587,441 (Frechet '441 hereinafter) and US Patent 5,587,446 (Frechet '446 hereinafter) in their remarks, but neither of these references appear on an Information Disclosure Statement. As a courtesy, and in the interest of compact prosecution, these references have been cited on the PTO-892 attached to this Office action.

Specification

4. Applicant's submission of a substitute specification, filed 3 January 2006 has been fully considered and is corrective.

The objection to the specification has been withdrawn.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

6. Applicant's amendment, filed 3 January 2006, with respect to the correction of minor informalities in claims 1 and 4, has been fully considered and are corrective.

The objection to claims 1-6 has been withdrawn.

Claim Rejections - 35 U.S.C. § 112

7. Applicant's amendment, filed 3 January 2006, with respect to the clarification of the site of the coupling in claims 2 and 3, the phrasing of the Markush group in claim 2 and the indication of the phenyl group in claim 3, has been fully considered and is corrective.

The rejection of claims 2 and 3 under 35 U.S.C. §112 2nd paragraph for the above reasons has been withdrawn.

8. The rejection of claim 3 under 35 U.S.C. §112 2nd paragraph as failing to particularly point out and distinctly claim the subject matter which applicant regards has the invention is maintained. Applicant's amendment filed 3 January 2006 has been fully considered but is not corrective.

Amended claim 3 still includes chemical structures within a table, which renders the claim indefinite because it is unclear whether the included structures part of the claimed invention.

Double Patenting

9. Applicant's terminal disclaimer, filed 3 January 2006, has been fully considered and is proper.

The rejection of claims 1-3 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of US Patent 6,784,287 (Do '287 hereinafter) has been withdrawn.

Claim Rejections - 35 U.S.C. § 102 and 35 U.S.C. § 103

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Applicant's arguments, filed 3 January 2006, particularly that the reference Do et al., Nonlinear optical materials containing organic chromophores of dendrimer structures: Synthesis and Optical properties, Photonics Conference 2002, October 30-November 1 2002, 497-498 (Do 2002 hereinafter) does not qualify as prior art under 35 U.S.C. §102(b), have been fully considered and are persuasive.

The rejection of claims 1-3 under 35 U.S.C. §102(b) as being anticipated by Do 2002 has been withdrawn.

12. Claims 1-3 are rejected under 35 U.S.C. §102(a) as being anticipated by Do 2002.

Do 2002 teaches a non-linear optical material comprising the elected polymer having the dendrimer structure shown in Formula 21 of the instant claim 2, with the elected organic chromophore identified as AIDC in Table 1 of the instant claim 3 coupled by ether linkage at the site of the terminal hydroxy groups of said polymer (Formula TDAIDC101 Page 498).

13. Applicant's declaration under 37 C.F.R. §1.132, filed 3 January 2006, particularly that the pertinent invention disclosed in Do '287 is not "by another", have been fully considered and are persuasive.

The rejection of claims 1 and 3 under 35 U.S.C. §102(e) as being anticipated by Do '287 has been withdrawn.

The rejection of claims 1-3 under 35 U.S.C. §103(a) as being anticipated by Do '287 has been withdrawn.

14. The rejection of claims 1 and 3-5 under 35 U.S.C. §102(b) as being anticipated by US Patent 6,252,025 (Wang hereinafter) and of claim 6 under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Wang are maintained. Applicant's arguments filed 3 January 2006 have been fully considered but they are not persuasive.

Applicant argues that Wang teaches hyperbranched rather than dendrimer structured polymers, citing Frechet '441 and Frechet '446 to make the distinction between the two structures; however, Wang does indeed teach the use dendrimer structured polymers (Column 1 Line 57 – Column 2 Line 6).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,587,441	12-1996	Frechet et al.
US 5,587,446	12-1996	Frechet et al.

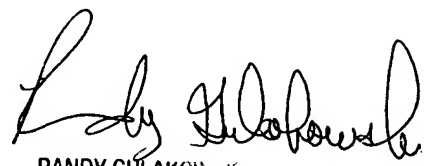
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Kugel whose telephone number is (571) 272-1460. The examiner can normally be reached 6:00 AM – 4:30 PM Monday - Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJK
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RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700